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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,377	03/14/2001	Tomas Brodsky	US010059	3327

24737 7590 06/27/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
YODER III, CHRISS S	
ART UNIT	PAPER NUMBER
2622	
MAIL DATE	DELIVERY MODE
06/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/808,377	BRODSKY ET AL.	
	Examiner	Art Unit	
	CHRISS S. YODER III	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-6,12 and 21-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-6,12 and 21-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 25, 2008 has been entered.

Specification

The amendment filed January 25, 2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amendment to page 8 of the specification has been amended to add the limitation “the mirrors 114, 116, are **planar and are** angled with respect...”. Since the disclosure did not previously limit the mirrors to being “planar", this is considered to be new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Arguments

Applicant's arguments with respect to claims 5, 6, 12, and 21-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 23-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 23 recites the limitation “the mirrors are **planar**”, which is not supported by the specification.

Claim 24 recites the limitations “the **planar** mirrors are disposed for direction the light from the object which is reflected in the **planar** mirrors directly from the **planar** mirrors to the camera”, which is not supported by the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. **Claim 3-6, 12, 21, 23-25, and 27-28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zanen (US Patent 5,532,777) in view of Ogino (US Patent 6,762,794).**

2. In regard to **claim 5**, note Zanen discloses a stereo camera system comprising stereo imaging means for outputting at least one stereo image (column 5, lines 7-10), said stereo imaging means including a camera (column 5, lines 7-10), a set of mirrors angled with respect to each other at a predetermined angle relative to a centrally located common plane intersecting said camera, each mirror disposed a predetermined distance from the camera along the common plane, for directing light from an object reflected in said mirrors along a straight line of sight from said mirrors to the camera, for producing a stereo effect in the output of the camera (column 5, lines 21-39 and figures 2-8: 16, 23, & 62), adjusting means for automatically changing at least one system parameter which affects the spatial resolution of the object of interest based on the focusing of the camera (column 5, lines 7-20 and column 5, line 57 – column 6, line 20), the adjusting means comprising at least one of angle adjustment means for adjusting a predetermined angle between the set of mirrors, and focal length adjustment

means for changing a focal length of the camera (column 5, line 57 – column 6, line 2). Therefore, it can be seen that Zanen fails to explicitly disclose a recognition means for locating an object of interest in a field of view of the camera and for determining at least one of a distance of the object of interest from the stereo imaging means and a size of the object of interest, and that the system parameters are changed based on at least one of the located distance of the object of interest from the stereo imaging means and the size of the object of interest.

In analogous art, Ogino discloses the use of a recognition means for locating an object of interest in a field of view of the camera (column 6, lines 42-46) and for determining at least one of a distance of the object of interest from the stereo imaging means (column 6, lines 42-46), and that the system parameters are changed based on the located distance of the object of interest from the stereo imaging means (column 3, lines 59-61). Ogino teaches that the use of recognition means for locating an object of interest in a field of view of the camera in order to adjust focus is preferred in order to obtain proper parallax images based on the object (column 4, lines 15-17). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Zanen system such that the focus adjustment is controlled based on the calculated distance to a recognized object, in order to capture images of the object with proper focus, as suggested by Ogino.

3. In regard to **claim 3**, note Zanen discloses the use of a still camera and the at least one stereo image is a still image (column 1, lines 25-32).

4. In regard to **claim 4**, note Zanen discloses the use of a video camera and the at least one stereo image is a sequence of video images (column 1, lines 33-39).

5. In regard to **claim 6**, note Zanen discloses the use of a controller for controlling at least one of the angle, distance, and focal length adjustment means based on an input signal from the recognition means (column 5, line 57 – column 6, line 20).

6. In regard to **claim 12**, note Ogino discloses that the recognition means is a stereo vision system (column 14, lines 16-38).

7. In regard to **claim 21**, note Zanen discloses a method for adjusting a stereo camera system to control spatial resolution of an object of interest in the field of view of a stereo imaging means (column 5, lines 7-10), the method comprising the steps of outputting at least one image from the stereo imaging means (column 5, lines 7-10), automatically changing at least one system parameter which affects the spatial resolution of the object of interest based on the focusing of the camera (column 5, lines 7-20 and column 5, line 57 – column 6, line 20), and providing said stereo imaging means by further including the steps of using a camera to receive light from said object (column 5, lines 7-10), establishing a predetermined angle between a set of mirrors, the angle being relative to a centrally located common plane intersecting said camera, and adjacent ends of said mirrors, mirrors being positioned at a common point of origin (column 5, lines 21-39 and figures 3-8: 16, 23, & 62), and establishing a predetermined distance from the camera and the adjacent ends of said mirrors

for reflecting light from said object from said mirrors along a straight line of sight directly to said camera, for producing a stereo effect in the output of the camera (column 5, lines 7-20 and figures 2-8: 16, 23, & 62), wherein the step of changing at least one system parameter includes at least one of adjusting a predetermined angle between the set of mirrors, and changing a focal length of the camera (column 5, line 57 – column 6, line 20). Therefore, it can be seen that Zanen fails to explicitly disclose locating an object of interest in the field of view of the stereo imaging means and at least one of the distance of the object of interest from the stereo imaging means and the size of the object of interest, and that the system parameters are changed based on at least one of the located distance of the object of interest from the stereo imaging means and the size of the object of interest.

In analogous art, Ogino discloses locating an object of interest in the field of view of the stereo imaging means (column 6, lines 42-46) and for determining a the distance of the object of interest from the stereo imaging means (column 6, lines 42-46), and that the system parameters are changed based on at least one of the located distance of the object of interest from the stereo imaging means (column 3, lines 59-61). Ogino teaches that the use of recognition means for locating an object of interest in a field of view of the camera in order to adjust focus is preferred in order to obtain proper parallax images based on the object (column 4, lines 15-17). Therefore, it would have been obvious to one of ordinary skill in the art to modify the method of Zanen such that the focus adjustment is controlled based on the calculated distance to a recognized object,

in order to capture images of the object with proper focus, as suggested by Ogino.

8. In regard to **claim 23**, note Zanen discloses that the mirrors are planar and have adjacent ends positioned at a common point (column 5, lines 21-39 and figures 2-8: 16, 23, & 62).

9. In regard to **claim 24**, note Zanen discloses that the planar mirrors are disposed for directing the light from the object which is reflected in the planar mirrors directly from the planar mirrors to the camera (column 4, lines 5-13).

10. In regard to **claim 25**, note Zanen discloses that the adjusting means includes an angle adjusting means for adjusting the predetermined angle between the set of mirrors (column 5, line 57 – column 6, line 2).

11. In regard to **claim 27**, note Zanen discloses that the adjusting means includes the focal length adjustment means for changing the focal length of the camera (column 4, lines 51-61).

12. In regard to **claim 28**, note Zanen discloses that the step of changing at least one system parameter includes at least two of adjusting the predetermined angle between the set of mirrors, adjusting the predetermined distance between the camera and the set of mirrors, and changing the focal length of the camera (column 5, line 57 – column 6, line 2; the angle and focal length are adjusted).

13. **Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino (US Patent # 6,762,794).**

14. In regard to **claim 22**, note Ogino discloses the use of a stereo camera system (column 1, lines 8-10) comprising a stereo imaging means including two cameras (column 5, lines 30-36; and figure 1: 103 and 104), each camera being angled a predetermined angle (column 5, lines 39-46) and distanced a predetermined distance with respect to each other and the object of interest (column 5, lines 39-46) for outputting at least one stereo image as a sequence of video images (column 15, line 64 – column 16, line 4), a recognition means for locating an object of interest in the field of view of the stereo imaging means (column 6, lines 42-46) and the distance to the object of interest from the stereo imaging means (column 6, lines 42-46), and adjusting means for automatically changing at least one system parameter which affects the spatial resolution of the object of interest based on the located distance of the object of interest from the stereo imaging means (column 3, lines 59-61) comprising an angle adjustment means for adjusting the predetermined angle of at least one of the two or more cameras (column 5,lines 40-45), baseline adjustment means for adjusting the predetermined distance between the two cameras (column 5,lines 40-45), distance adjusting means for adjusting a distance between at least one of the two cameras and the object of interest (figure 5: A, B, and C , by changing the angle of the cameras C_L and C_R, the distance to an object is changed). Therefore, it can be seen that the Ogino device lacks a focal length adjustment means for changing a focal length of at least one of the two cameras. Official notice is taken that the concepts and advantages of adjusting the focal length of a camera are notoriously well known and expected in the art. Therefore, it would

have been obvious to one of ordinary skill in the art to modify the Ogino device to include the use of a focal length adjustment means in order to focus the each camera so as to achieve maximum clarity and distinctness of the image rendered by the optical system.

15. Claims 26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zanen (US Patent 5,532,777) in view of Ogino (US Patent 6,762,794), and further in view of Suzuki (US Patent 5,671,450).

16. In regard to **claim 26**, note the primary reference of Zanen in view of Ogino discloses a stereo camera system comprising stereo imaging means for outputting at least one stereo image, as claimed in claim 5 above. Therefore, it can be seen that the primary reference of Zanen in view of Ogino fails to disclose that the adjusting means adjusts the predetermined distance between the camera and the set of mirrors.

In analogous art, Suzuki discloses adjusting the predetermined distance between the camera and the set of mirrors (figure 6: 1 & 8). Suzuki teaches that the adjustment of the distance between the camera and the set of mirrors is preferred in order to obtain high quality images over the entire focal length change range of the zoom lens (column 8, lines 55-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Zanen in view of Ogino to include the adjustment of the distance between the camera and the set of mirrors, in order to capture high quality images over the entire focal length of the zoom lens, as suggested by Suzuki.

17. In regard to **claim 29**, note Zanen discloses that the step of changing at least one system parameter includes adjusting the predetermined angle between the set of mirrors, and changing the focal length of the camera (column 5, line 57 – column 6, line 2; the angle and focal length are adjusted). Therefore, it can be seen that the primary reference of Zanen in view of Ogino fails to disclose adjusting the predetermined distance between the camera and the set of mirrors.

In analogous art, Suzuki discloses adjusting the predetermined distance between the camera and the set of mirrors (figure 6: 1 & 8). Suzuki teaches that the adjustment of the distance between the camera and the set of mirrors is preferred in order to obtain high quality images over the entire focal length change range of the zoom lens (column 8, lines 55-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Zanen in view of Ogino to include the adjustment of the distance between the camera and the set of mirrors, in order to capture high quality images over the entire focal length of the zoom lens, as suggested by Suzuki.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US005499051: note the use of a stereo image device with two cameras.

US006141036: note the use of a stereo image device with two cameras.

US007388598: note the use of a stereo image device with two cameras.

US006819488: note the use of a single camera in a stereo image device.

US007209161: note the use of a stereo image device with two cameras.

US005101268: note the use of a stereo image device with two cameras.

US005142642: note the use of a stereo image device with two cameras.

US005003385: note the use of a stereo image device with two cameras.

US004751570: note the use of a stereo image device with two cameras.

US003784738: note the use of a stereo image device with two cameras.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISS S. YODER III whose telephone number is (571)272-7323. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. S. Y./
Examiner, Art Unit 2622

/Lin Ye/
Supervisory Patent Examiner, Art Unit 2622